

Louisiana Office of Public Health Laboratories	
Test Name	Neonatal Thyroxine
PHL Location	Central Laboratory 1209 Leesville Avenue Baton Rouge, Louisiana 70802
CPT Code	84443
Synonyms	T4
Brief Description of Test	The quantitative determination of human thyroxine (T4) in blood specimens dried on filter paper as an aid in screening newborns for congenital (neonatal) hypothyroidism.
Possible Results	Normal; Abnormal
Reference Range	≤ 48 Hrs Old $>6\mu\text{g/dL}$ or >48 Hrs old $>4\mu\text{g/dL}$
Specimen Type	Neonatal Dried Blood Spot
Specimen Container(s):	Shipping Envelopes
Minimum volume accepted:	Minimum of 2 completely filled blood spot circles
Collection Instructions	Blood Specimens should be taken directly from a heel prick onto filter paper and, allowed to dry for at least 3 hours in a horizontal position.
Storage and Transport Instructions	Storage of samples in an environment with elevated temperatures and humidity increases the risk of false positive screening results. Transport or mail the specimen to the laboratory with 24 hours of collection.
Causes for Rejection	Specimen > 14 days old, clotted or layered, serum rings, scratched or abraded, insufficient quantity for testing, not completely dry before mailing, blood applied to both sides of the filter paper, diluted discolored or contaminated, collection using capillary tubes containing EDTA, >12 months old, circles not completely filled.
Limitations of the Procedure	<ul style="list-style-type: none"> sample spot not uniformly saturated with blood - sample spots punched too close to the edge of the blood spot - poorly collected and improperly dried specimens - non-eluting blood spot due to deterioration of sample caused by exposure to heat and humidity - contamination of blood spot filter paper with fecal material Heterophilic antibodies in the sample may interfere with the assay Hematocrit values in the blood sample may affect the measured thyroxine concentration
Interfering Substances	Icteric (unconjugated bilirubin $\leq 342\mu\text{mol/L}$, equivalent to 20 mg/dL in serum, and conjugated bilirubin $\leq 237\mu\text{mol/L}$, equivalent to 20 mg/dL in serum) samples do not interfere with the assay. Lipemic samples (Intralipid $\leq 15\text{ mg/mL}$ in serum) do not interfere with the assay. Added hemoglobin up to 15 g/L does not interfere with the assay.
References	GSP Neonatal Thyroxine (T4) Package Insert 3302-001U
Additional Information	NA
Release Date	November 2013
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